

WHAT IS CLAIMED IS:

1. A method of reducing or inhibiting graft vs. host disease in a
5 bone marrow transfer in a mammal, comprising administering to said
mammal an effective amount of interleukin-10.
2. A method of inhibiting, by an immune system, an antigen-specific
10 response to subsequent presentation of said antigen, comprising
administering to said immune system an effective amount of exogenous
interleukin-10 and said antigen.
3. The method of Claim 2:
 - 15 a) wherein said immune response is mediated by a macrophage,
APC, langerhans cell, or dendritic cell;
 - b) further inhibiting proliferative response of CD4⁺ host-
reactive T cell clones; or
 - c) wherein said inhibiting persists for at least about 21 days.
- 20 4. The method of Claim 2, wherein said effective amount is
sufficient to decrease responder T cell activation.
5. The method of Claim 4, further comprising reduced stimulatory
25 capacity of peripheral blood mononuclear cells, dendritic cells,
monocytes, and/or normal B cells.
6. A substantially pure antigen-specific anergic T cell
characterized by production upon restimulation of:
 - 30 a) low IL-2;
 - b) low IL-4;
 - c) low IL-5;
 - d) intermediate IFN- γ ;
 - e) low GM-CSF; and
 - f) high IL-10;
- 35 said population made by administering to precursors of said T cell
with a combination of:

- i) exogenous IL-10; and
- ii) antigen.

7. The anergic T cells of Claim 6:

- a) wherein said precursors are CD4⁺ T cells;
- b) which further produce high TNF- α ;
- c) which induce an anergic response to said antigen;
- d) wherein said IL-10 is human IL-10;
- e) wherein said IL-10 is administered for at least about 7 days; or
- f) wherein said anergic condition persists for at least about 21 days.

8. The population of Claim 6, wherein said antigen is selected from:

- a) a protein antigen;
- b) a particulate antigen;
- c) an alloantigen; or
- d) an autoantigen.

9. The population of Claim 8, wherein said antigen is selected from:

- a) an alloantigen; or
- b) an autoantigen.

10. A substantially pure antigen-specific anergic T cell characterized by production upon restimulation of:

- a) low IL-2;
- b) low IL-5;
- c) intermediate IFN- γ ;
- d) low GM-CSF; and
- e) high IL-10.

11. The anergic T cell of Claim 10, wherein said production of:

- a) IL-2 is less than about 500 pg/ml;
- b) IL-5 is between about 300 and 3000 pg/ml;

- c) IFN- γ is at least about 1000 pg/ml;
- d) GM-CSF is about 300-3000 pg/ml; and
- e) IL-10 is at least about 3000 pg/ml.

5 12. The anergic T cell of Claim 11, wherein said IL-10 level upon restimulation is at least about 5x that of a Th1 cell.

13. A substantially pure T cell which exhibits an antigen-specific anergy to an antigen.

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14. The T cell of Claim 13:

- a) wherein said antigen is an alloantigen or self antigen;
- b) which produces IL-10 upon restimulation at least about 3000 pg/ml; or
- 15 c) which exhibits said antigen-specific anergy for at least about 21 days.

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15. A method of suppressing a response in a T cell to an antigen, comprising administering to an immune system comprising said cell a combination of:

- a) exogenous IL-10; and
- b) either antigen or anti-CD3 antibodies.

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16. The method of Claim 15, wherein said antigen is alloantigen or self antigen.

17. The method of Claim 16, wherein said antigen is restricted by MHC molecules.

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18. The method of Claim 15, performed in vivo.

19. The method of Claim 15, which further suppresses response to subsequent stimulation.

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20. The method of Claim 19, wherein said response accompanies tissue transplantation.

21. The method of Claim 20, wherein said tissue is an organ or bone marrow.

5 22. The method of Claim 20, wherein said T cell is from the recipient of said tissue transplantation.

23. The method of Claim 15, wherein said response accompanies tissue transplantation and:

- 10 a) said administering is prior to said tissue transplantation;
 b) said T cell is introduced to the recipient of said tissue transplantation; or
 c) IL-10 is administered to the tissue to be transplanted before said transplantation.

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24. The method of Claim 16, wherein said antigen causes an autoimmune disease.

25. A method of suppressing a subsequent response in a T cell to an antigen, comprising administering to an immune system comprising said cell with a combination of:

- 20 a) exogenous IL-10; and
 b) either antigen or anti-CD3 antibodies.

25 26. The method of Claim 25, wherein said IL-10 is administered for at least about 7 days.

27. A method of inducing in a T cell anergy to an MHC antigen, comprising administering to a precursor to said T cell:

- 30 a) exogenous IL-10 and said antigen; or
 b) exogenous IL-10 with anti-CD3.

28. The method of Claim 27, wherein said administering with IL-10 is for at least about 7 days.

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29. A composition comprising IL-10 and antigen.

30. The composition of Claim 29, wherein:

a) said composition is a pharmaceutical composition comprising
said IL-10 and a pharmaceutically acceptable carrier;

5 b) said IL-10 is human IL-10; or

c) said antigen is selected from the group consisting of:

i) alloantigen;

ii) self antigen;

iii) protein antigen; and

10 iv) particulate antigen.